

Remarks

The Applicants have amended Claim 15 to include the subject matter of Claim 29. Claim 29 has accordingly been cancelled. The Applicants have further amended Claim 15 to recite that the interlacing treatment further controls relaxation of the multi-filament yarn. Support may be found in the Applicants' Specification such as on page 14 at lines 8-10, for example. Finally, Claim 15 has been amended to break the claim into separate paragraphs to delineate various steps for ease of readability and understanding. Entry of the amendments into the official file is respectfully requested.

All of Claims 15-19, 21, 22 and 24 stand rejected under 35 USC §103 over the hypothetical combination over Toshio and Rowan with Fujimoto. The Applicants note that the rejection is now moot with respect to cancelled Claim 29. The Applicants also note with appreciation the Examiner's detailed comments hypothetically applying the combination of publications against those claims. The Applicants nonetheless respectfully submit that there is no motivation to make the combination, and, in any event, the combination would result in a different methodology. Details are set forth below.

Before turning to the specifics of the rejection, the Applicants have identified problems associated with historic processes that are now cured by the claimed method. In that regard, the Applicants utilize PTT which has very high stretchability. As a consequence, during the relaxation process, "winding of the yarn back onto the roller" is a serious problem. The Applicants have discovered that they can prevent such winding back onto the roller during the relaxation heat treatment by reducing the frictional coefficient between the yarn and their second heated roll to cause a selected amount of slip with a second heated roll surface roughness of 1.5S 8S at 105-180°C. Also, they have discovered that this step, taken in conjunction with utilizing the interlacing

treatment to further control relaxation of the yarn at a relaxation factor at 10-20% avoids the aforementioned winding back of the yarn onto the roller. The Applicants respectfully submit that the prior art of record, whether taken individually or collectively, fails to teach or suggest this surprising advance in the art.

Rowan discloses a relaxation process using matte finish rolls. However, the objective is to improve mechanical quality of yarns in a process that uses a draw point-localizing device, and “excellent mechanical quality.” Such excellent quality means a low defect level such as broken filaments and loops. This is discussed in col. 1, lines 41-52, and confirmed by Comparative Examples 1, 2 or Tables III, IV, V.

Also, the purpose of using matte roller in Rowan is to lower the drawing tension and enable more than one end of yarn to be drawn through a single set of rollers (in col. 1 and lines 41-52 and col. 3, line 60, col. 4, line 5).

The yarn in Rowan is polyester tire and industrial yarn, and PTT is not disclosed. Only PET is disclosed. Since PET tire and industrial yarn requires high strength, such yarn does not have stretchability. This is quite different from the highly stretchable PTT. Hence, “winding of the yarn back on the roller” seldom occurs in Rowan.

The Applicants respectfully submit that Rowan, because it uses completely different material, does not even recognize the problems encountered by the Applicants with respect to the yarn winding pack onto the roller. As a consequence, one skilled in the art would not have any incentive to look to Rowan and would not be motivated to make modifications to Fujimoto to cure a problem that neither Fujimoto nor Rowan have apparently even encountered. In that regard, the Applicants note that rejections under §103 require that there be motivation in the prior art to make modifications to solve problems or needs and that there would be a reasonable expectation of success in making

such modifications. The Applicants respectfully submit that the hypothetical combination of Rowan with Fujimoto (as well as Toshio) fails both prongs of this test.

The Applicants have encountered the problem of the yarn winding back onto the roller while utilizing PTT as a base material. There is no disclosure of PTT in Rowan, and one skilled in the art would not be motivated to look to Rowan in view of Fujimoto to employ a second heated roll of Rowan having a particular surface roughness to cure a problem that Rowan did not see. As a consequence, there would be no motivation to modify the Fujimoto rollers by utilizing the Rowan rollers. Thus, the hypothetical combination fails the first prong.

The Applicants also respectfully submit that the combination fails the second prong because one skilled in the art would not have a reasonable expectation of success that employing the matte rollers of Rowan would or could cure the problem of the yarn winding back up onto the roller during the relaxation treatment. Inasmuch as neither Fujimoto nor Rowan even acknowledge or are apparently even aware of this problem, there surely is no reasonable expectation of success that one would glean from taking the matte rollers of Rowan and substituting them for the rollers of Fujimoto.

Moreover, the Applicants respectfully submit that neither Fujimoto nor Rowan provide any guidance with respect to the interlacing nozzle controlling the relaxation process in a way that would influence the relaxation factor. Careful scrutiny of the entire Fujimoto disclosure reveals that there is no understanding that an interlacing nozzle could be used to control the relaxation factor. Similar scrutiny of the Rowan disclosure reveals the same thing. Thus, even if one skilled in the art were to hypothetically combine Rowan with Fujimoto (as well as Toshio), there is no resulting methodology that would include the Applicants' claimed step of continuously subjecting the multi-filament yarn to an interlacing treatment between the second heated roll and the winder to further control relaxation

of the multi-filament yarn at a relaxation factor of 10-20%. This claimed subject matter simply is not disclosed by any of Fujimoto, Rowan and Toshio. Therefore, the hypothetical combination inherently fails to result in the Applicants claimed method including that specific claimed step. Withdrawal of the rejection is respectfully requested.

In light of the foregoing, the Applicants respectfully submit that the entire Application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,



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